

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Atty. Docket: SA'AR1

In re Application of:)	Conf. No.: 9434
Amir SA'AR et al.)	
)	Art Unit:
)	
Appln. No.: 10/554,113)	Examiner:
)	
Filed: April 20, 2004)	Washington, D.C.
)	
For: VOLTAGE TUNABLE)	August 21, 2006
INTEGRATED INFRARED IMAGER)	
)	

INFORMATION DISCLOSURE STATEMENT [IDS]

Honorable Commissioner for Patents
U.S. Patent and Trademark Office
Randolph Building, Mail Stop Amendments
401 Dulany Street
Alexandria, VA 22314

Sir:

This Information Disclosure Statement is submitted in accordance with 37 CFR §§1.97, 1.98, and it is requested that the information set forth in this statement and in the listed documents be considered during the pendency of the above-identified application, and any other application relying on the filing date of the above-identified application or cross-referencing it as a related application.

[X] 1. This IDS should be considered, in accordance with 37 CFR §1.97, as it is filed:

[] A. within three months of the filing date of the above-identified national application or within three months of the entry into the national stage of the above-identified international application.

[X] B. before the mailing date of a first office action on the merits or before the mailing of a first Office action after the filing of a Request for Continued Examination under 37 CFR §1.114; or

☐ C. after (A) and (B) above, but before final rejection or allowance, and Applicant has made the necessary certification (box "i" below) or paid the necessary fee (box "ii" below):

☐ i. Counsel certifies that, upon information and belief, each item of information listed herein either was

☐ (a) first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this IDS; or

☐ (b) not cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of undersigned after making reasonable inquiry, not known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this IDS.

☐ ii. Credit Card Payment Form, PTO-2038, is attached authorizing payment of the fee set forth in 37 CFR §1.17(p), presently believed to be \$180. If the enclosed payment is incorrect, please charge any additional fees or credit any overpayment to Deposit Account No. 02-4035 of the undersigned.

☐ D. after (A), (B) and (C) above, but before payment of the issue fee: Applicant states as follows under 37 CFR §1.97(e) for consideration of this IDS, that, upon information and belief, each item of information listed herein either was

☐ (a) first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this IDS; or

☐ (b) not cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of the undersigned after making reasonable inquiry, not known to any individual designated in 37 CFR \$1.56(c) more than three months prior to the filing of this IDS.

Credit Card Payment Form, PTO-2038, is attached authorizing payment of the fee set forth in 37 CFR \$1.17(p), presently believed to be \$180. If the enclosed payment is incorrect, please charge any additional fees or credit any overpayment to Deposit Account No. 02-4035 of the undersigned.

☒ 2. In accordance with 37 CFR \$1.98, this IDS includes a list (e.g., form BN/SB/08A/B) of all patents, publications, or other information submitted for consideration by the office, either incorporated into this IDS or as an attachment hereto. Other than U.S. patent(s) and/or published U.S. application(s), which 37 CFR \$1.98(a)(2)(ii) does not require to be filed unless specifically required by the Office, a copy of each document listed is attached, except as explained below:

☐ A. Document(s) _____ is/are deemed substantially cumulative to document(s) _____, and, in accordance with 37 CFR \$1.98(c), a copy of each of the former document(s) is not enclosed.

☐ B. Certain documents were previously cited by or submitted to the Office in the following prior application(s), which are relied upon under 35 U.S.C. 120:

(insert serial numbers and filing dates of prior applications)

Applicant identifies these documents by attaching hereto copies of the forms PTO-892, PTO-1449, PTO/SB/08a and/or PTO/SB/08b (or their BN form equivalents) from the files of the prior application(s) or a fresh BN/SB/08A and/or BN/SB/08B listing these documents, and request that they be considered and made of record in accordance with 37 CFR \$1.98(d). Per 37 CFR

\$1.98(d), copies of these documents need not be filed in this application.

[X] 3. Document AI is not in the English language. In accordance with 37 CFR \$1.98(a)(3), Applicant states:

[X] An English translation of each document AI (or of the pertinent portions thereof), or a copy of an English-language abstract (or claim) is enclosed.

[] For documents _____, a corresponding English-language patent or published application is included on the accompanying Form BN/SB/08A, with a line drawn in the margin connecting the non-English-language document with its corresponding English-language document.

[X] A concise explanation of the relevance of documents AI is found in the attached international search report (see reply to Comment 68 in the preamble to the final rules; 1135 OG 13 at 20).

[] A concise explanation of the relevance of document(s) _____ is set forth as follows:

[] A concise explanation of the relevance of document(s) _____ can be found on page(s) _____ of the specification.

[] A concise explanation of the relevance of document(s) _____ can be found on the attached sheet.

[X] 4. No explanation of relevance is necessary for documents in the English language (see reply to Comments 67 and 68 in the preamble to the final rules; 1135 OG 13 at 20).


[] 5. Other information being provided for the examiner's consideration follows:

6. In accordance with 37 CFR §§1.97(g) and (h), the filing of this IDS should not be construed as a representation that a search has been made or that information cited is, or is considered to be, material to patentability as defined in 37 CFR §1.56(b), or that any cited document listed or attached is (or constitutes) prior art. Unless otherwise indicated, the date of publication indicated for an item is taken from the face of the item and Applicant reserves the right to prove that the date of publication is in fact different.

Respectfully submitted,

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Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet 1 of 3

Complete if Known

Application Number	10/554,113
Filing Date	April 20, 2004
First Named Inventor	Amir SA'AR
Group Art Unit	
Examiner Name	
Attorney Docket Number	SA'AR1

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	AA	US-5,329,136	07-12-1994	Goossen	
	AB	US-5,646,421	07-08-1997	Liu	
	AC	US-6,060,704	05-09-2000	Hyun et al.	
	AD	US-6,445,000 B1	09-03-2002	Masalkar et al.	
	AE	US-6,469,358 B1	10-22-2002	Martin	
	AF	US-6,495,830 B1	12-17-2002	Martin	
	AG	US-6,028,323	02-22-2000	Liu	
	AH	US-6,323,941 B1	11-27-2001	Evans et al.	
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FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Number		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Country Code ³	Number ⁴ Kind Code ⁵ (if known)			
	AI	WO	97/17719	05-15-1997	Fraunhofer Ges Forschung	

Examiner
SignatureDate
Considered

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kind Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>		Complete if Known			
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		First Named Inventor	Amir SA'AR		
		Group Art Unit			
		Examiner Name			
Sheet	2	of	3	Attorney Docket Number	SA'AR1

NON PATENT LITERATURE DOCUMENTS / OTHER INFORMATION			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T ²
	AJ	LUI, H et al., "Near and middle infrared dual band operation of InGaAs/InP quantum well infrared Photodetector"; Applied Physics Letters AIP USA; Vol. 77, No. 16, October 16, 2000	
	AK	GUNAPALA, S.D. et al., "Lattice-matched InGaAsP/InP long-wavelength quantum well infrared photodetectors"; Appl. Phys. Lett, Vol. 60, No. 5, pp.636-638	
	AL	FORREST, S.R., "Performance of In _x Ga _{1-x} As _y P _{1-y} Photodiodes with Dark Current Limited by Diffusion, Recombination, and Tunneling"; IEEE J. Quantum Electron, Vol. 17, No. 2, pp. 217-226, February 1981	
	AM	LEHENY, R.F. et al., "Characterization of In _{0.53} Ga _{0.47} As Photodiodes Exhibiting Low Dark Current and Low Junction Capacitance"; IEEE Journal of Quantum Electronics, Vol. 17, No. 2, pp. 227-231, February 1981	
	AN	LEE, T.P. et al., "InGaAs/InP p-i-n Photodiodes for Lightwave Communications at the 0.95-1.65 μm Wavelength"; IEEE Journal of Quantum Electronics, Vol. 17, No. 2, pp. 232-238, February 1981	
	AO	SUSA, N. et al., "Characteristics in InGaAs/InP Avalanche Photodiodes with Separated Absorption and Multiplication Regions"; IEEE Journal of Quantum Electronics, Vol. 17, No. 2, pp. 243-249, February 1981	
	AP	CAMPBELL, J.C. et al. "InP/InGaAs Heterojunction Phototransistors"; IEEE Journal of Quantum Electronics, Vol. 17, No. 2, pp.264-269, February 1981	
	AQ	COHEN, N. et al; "A monolithic LWIR/NIR multispectral QWIP for night vision and see spot"; Infrared Physics and Technology; XP-002299329, Vol. 42, No. 3-5, pp.391-396, September 2001	
	AR	SCHNEIDER, H et al., "Voltage-tunable two-color detection by interband and intersubband transitions in a p-i-n-i-n structure"; Applied Physics Letters, Vol. 68, No. 13, pp.1832-1834, March 25, 1996	
	AS	RYZHII, V et al., "Device Model of Integrated QWIP-HBT-LED Pixel for Infrared Focal Plane Arrays"; Proceedings of the 32 nd European Solid-State Device Research Conference University; pp. 643-646, September 2002	
	AT	RYZHII, V et al., "Analysis of dual-band quantum well photodetectors"; Journal of Applied Physics; Vol. 91, No. 9, pp. 5887-5891, May 1, 2002	
	AU	LIU, H.C. et al., "GaAs/AlGaAs quantum-well photodetector for visible and middle infrared dual-band detection"; Applied Physics Letters; Vol. 77, No. 16, pp. 2437-2439, October 16, 2000	

Examiner Signature	Date Considered
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¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

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Group Art Unit	
Examiner Name	
Attorney Docket Number	SA'AR1

Sheet	3	of	3
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NON PATENT LITERATURE DOCUMENTS / OTHER INFORMATION

[illegible]

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